

CLAIMS

What is claimed is:

1. An injection pressure regulator testing system, comprising:
 - a sleeve forming a test chamber with an inside surface, where the sleeve has a first interface and a second interface on the inside surface, where the sleeve forms an inlet passage to the test chamber, where the sleeve forms a drain passage to the test chamber, where the drain passage is between the first and second interfaces;
 - a pressure source connected to the inlet passage via an inlet tube;
 - a drain connected to the drain passage via a drain tube; and
 - a power supply having a wire, where the wire connects to an injection pressure regulator when the injection pressure regulator is inserted into the test chamber.
2. The injection pressure regulator testing system of Claim 1,
 - where the first interface sealably engages a first O-ring on an injection pressure regulator when the injection pressure regulator is inserted into the test chamber; and
 - where the second interface sealably engages a second O-ring on the injection pressure regulator when the injection pressure regulator is inserted into the test chamber.
3. The injection pressure regulator testing system of Claim 1, where the pressure source has a range of about 0 through about 750 psi (5.2 MPa).
4. The injection pressure regulator testing system of Claim 1, where the pressure source has a range of about 0 through about 6,000 psi (41.4 MPa).
5. The injection pressure regulator testing system of Claim 1, where the pressure supply comprises a pump, a pressure gauge, and a valve
6. The injection pressure regulator testing system of Claim 1, where the pump is a hand-activated pump.

7. The injection pressure regulator testing system of Claim 1, where the power supply comprises a battery.
8. A method for testing an injection pressure regulator, comprising:
 - sealing an injection pressure regulator in a test chamber formed by a sleeve;
 - activating the injection pressure regulator for operation at a selected pressure level;
 - pumping hydraulic fluid into the test chamber; and
 - determining whether the injection pressure regulator can achieve the selected pressure level.
9. The method for testing an injection pressure regulator of Claim 8, further comprising:
 - sealably engaging a first O-ring of the injection pressure regulator against a first interface on an inside surface of the test chamber; and
 - sealably engaging a second O-ring of the injection pressure regulator against a second interface on an inside surface of the test chamber.
10. The method for testing an injection pressure regulator of Claim 8, further comprising verifying whether the injection pressure regulator can hold the pressure within a selected tolerance of the selected pressure level for a selected time period.
11. The method for testing an injection pressure regulator of Claim 10, where the selected pressure level is a pressure level for a HEUI fuel injection system.
12. The method for testing an injection pressure regulator of Claim 8,
 - where the selected pressure level is about 500 psi (3 MPa);
 - where the selected tolerance is in the range of about -1 percent through about +1 percent of the selected pressure level; and
 - where the selected time period is in the range of about 1 second through about 10 seconds.